

MA771 - Discrete Dynamical Systems - Spring 2010

Lecturer

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Class Details

Day	Time	Room
MWF	11-12	PSY B42

Grading

Graded Item	Weighting	Date
Homework	80%	Assigned every 1-2 weeks
Presentation	20%	To be given at the end of the semester

Textbook and topics covered

The main book we will use is a preprint copy of “Dynamics: Introductory Lectures,” by John Milnor. This book is not yet published, but Prof. Milnor has allowed me to distribute the early version to you. The only condition is that we provided him with suggestions, comments, and/or corrections. We will also use parts of “Concepts and Results in Chaotic Dynamics: A Short Course,” by Pierre Collet and Jean-Pierre Eckmann, and “Dynamical Systems: Stability, Symbolic Dynamics, and Chaos,” by Clark Robinson. However, you need not buy these books. I will put them on reserve in the library.

The basic plan for the course is: **0) Introduction; i) Topological Dynamics; ii) Ergodic Theory; iii) Hyperbolic Dynamics (for smooth maps); iv) Degree One Circle Maps (if time).**

Homework

Homework assignments will be given approximately every 1-2 weeks. You are encouraged to work together on these, but please make sure that you write up the solutions on your own.

Presentation

Each of you will give a presentation at the end of the semester (exact dates and times to be determined). This presentation will be 30 minutes long and will be on a topic of your choice. The topic could be, for example, a research paper on a related topic (by you or someone else) or a topic from the field that was not covered in lecture and that you would like to introduce us to.